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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,455	12/10/2001	Hideki Uchida	34236	7206

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EXAMINER

EDMONDSON, LYNNE RENEE

ART UNIT PAPER NUMBER

1725

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,455

Applicant(s)

UCHIDA ET AL.

Examiner

Lynne Edmondson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 1-21 and 34-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22, 26-33 is/are rejected.
- 7) ☒ Claim(s) 23-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 1-21 and 34-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse.

Claim Objections

2. Claims 32 and 33 are objected to because of the following informalities: The end of claim 32 appears to be missing. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 22 and 26-33 are rejected under 35 U.S.C. 102(a) as being anticipated by Asai et al. (JPN 2001-339196 A).

Asai teaches an electronic component mounting apparatus comprising a component supply device (parts feeder), a sucking nozzle (96) held by an attachment head (paragraphs 8 and 47), a head moving device, a viscous fluid (tacking agent) transfer device for forming a flat viscous fluid transfer surface wherein the electronic component is immersed in the fluid (paragraph 9). The fluid transfer device comprises a transfer unit having a planar pan surface, a squeegee unit having a planar stirring squeegee (front 248) and a planar leveling squeegee (rear 248) and a squeegee fixing member (240) serving to separate the squeegees and to fix them in parallel while supporting them pivotally and rockably above a movable transfer unit (214) (paragraphs 33-38 and figure 7). The device comprises multiple heads (96, paragraphs 11-12) wherein the transfer unit of said viscous fluid transfer device includes a pan surface having a greater width than a double of the width of the multi-head (figures 1, 5 and 7). A method is taught comprising the steps of sucking an electronic component by an attachment head having a sucking nozzle (96) while uniformly flattening a viscous fluid (flux) on a transfer unit having a planar pan (214), moving the component over the fluid surface, immersing the component in the fluid, raising the nozzle after transferring the fluid and moving and lowering the component for mounting on the substrate (paragraphs 8-10). The sucking nozzles of a multi-head are arranged in parallel and controlled such that the nozzles can move independently or simultaneously (figure 1 and paragraphs 11-12). The height of the viscous fluid, which is set at a particular thickness, is detected before the fluid is transferred to the component with height adjustments as needed (paragraphs 33 and 44-47). A reference mark is detected for

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alignment on the first component for alignment of the second component performing corrections as needed (paragraphs 20, 61 and 66-68). See also Asai claims 1-6 and 8.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

5. Claims 28-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Mori et al. (US 2002/0069526 A1).

Mori teaches an electronic component mounting method comprising the steps of sucking an electronic component by an attachment head having a sucking nozzle (8) while uniformly flattening a viscous fluid (flux) on a transfer unit having a planar pan (figure 6 and col 7 lines 10-52), moving the component over the fluid surface, immersing the component in the fluid (col 7 line 53 – col 8 line 29), raising the nozzle after transferring the fluid and moving and lowering the component for mounting on the substrate (figures 1 and 10-12, col 1 lines 50-55 and col 6 lines 1-20). The sucking nozzles of a multi-head are arranged in parallel and controlled such that the nozzles can move independently or simultaneously (figure 17, col 6 lines 20-33 and col 9 lines 57-65). The height of the viscous fluid, which is set at a particular thickness, is detected before the fluid is transferred to the component with height adjustments as needed (col 7 line 49 – col 8 line 13). A reference mark is detected for alignment on the first component (board) for alignment of the second component (33) with corrections as needed (col 6 lines 20-25 and lines 46-49). See also Mori claims 4 and 6-8.

Allowable Subject Matter

6. Claims 23-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art teaches rubber pads on the squeegee rather than the sucking nozzle. See Asai.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jiang et al. (USPN 6576495 B1), Fogal et al. (USPN 6537400 B1), Sakemi et al. (USPN 5680984, method with solder balls) and Matsushita (JPN 2001-267728 A, flux, thickness, height detection).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (571) 272-1172. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Lynne Edmondson
Primary Examiner
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A handwritten signature in cursive script, appearing to read 'Lynne Edmondson', followed by a date '1/20/04' written vertically.

LRE